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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/692,689

10/27/2003

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87321.1700

2044

7590 08/13/2007
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EXAMINER

PAUL, DISLER

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

08/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,689	ARCARIA ET AL.	
	Examiner	Art Unit	
	Disler Paul	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2,10,14 are rejected under 35 U.S.C. 103(a) as being unpatentable the applicant's admitted prior art, which will be refer to as AAPA (Fig.3/US 2005/0093711A1) and McNutt ("US 6,865,425 B2).

Re claim 1, AAPA did disclose of the programmable logic controller (fig.3 (112)) which being couple to the audio generator (fig.3 (142), page 1[0006]) and outputting from the programmable logic controller to output audio signal generated by the audio generator (fig.3 (142,120); page 1[0007]), However, AAPA fail to disclose of the limitation wherein the programmable logic controller comprising a backplane connector and the audio generator is incorporated in the programmable logic controller. But, McNutt did disclose of a system wherein the programmable logic controller comprising a backplane connector and the generator is incorporated in the programmable logic (fig.2(2000); col.3 line 33-36 and col.6) for the purpose of providing a much simplify system. Thus, taking the combined teaching of AAPA and now Mc Nutt as a whole, it would have been obvious for one of the ordinary skill in the art to have incorporated the programmable

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logic controller comprising a backplane connector and the generator is incorporated in the programmable logic for the purpose of providing a much simplify system.

Similarly Re claims 14 has been analyzed and rejected with respect to claim 1 above.

Re claim 2, the programmable logic controller of claim 1, the combined teaching of McNutt and Howard as a whole, would have incorporated the further comprising control circuitry interfacing between the backplane connector and the audio generator (Mc Nutt, fig.2 (2120)/ interfacing wt the generator and backplane I/O).

Re claim 10, the programmable logic controller of claim 1, further comprising an input configured to input a signal to the programmable logic controller (fig.2 (2500,2900); col.6 line 58-65).

3. Claims 1-2, 6,9-10,14-15,18-19,21,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNutt ("US 6,865,425 B2) and Howard ("6,011,852").

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Re claim 1, McNutt disclose of the programmable logic controller (fig.2/2000) comprising: a backplane connector connected to the programmable logic controller and a generator operably connected to the backplane connector (col.6 line 15-20; fig.2 (2140)/backplane connector at bus for interconnecting wt the generator via I/O bus); and an output from the programmable logic controller configured to output a signal generated by the generator (fig.2 (2200,2400)/generated may be outputted. However, McNutt fail to disclose of the generator being an audio generator, Howard did disclose of having a programmable controller wherein the generator being an audio type (fig.2 (26); col.6 line 30-55) for the purpose of generating and outputting enhanced stereophonic sound from the computer. Thus, taking the combined teaching of McNutt and Howard as a whole, it would have been obvious at the time of the invention, for one of the ordinary skill in the art to have incorporated the having an audio generator in McNutt for the purpose of generating and outputting enhanced stereophonic sound from the computer.

Re claim 2, the programmable logic controller of claim 1, the combined teaching of McNutt and Howard as a whole, would have incorporated the further comprising control circuitry interfacing between the backplane connector and the audio generator (Mc Nutt, fig.2 (2120)/ interfacing wt the generator and backplane I/O).

Re claim 6, the programmable logic controller of claim 1, further comprising an amplifier configured to amplify an audio signal generated by the audio generator (Howard, fig.2 (10)).

Re claim 9, the programmable logic controller of claim 1, further comprising a speaker system operably connected to the output. However, the combined teaching of McNutt and Howard as a whole, fail to disclose of having a speaker operably connected to the output, However, Howard did disclose of the system of having a speaker operably connected to the output (fig.2 (28)) for the purpose of providing the stereophonic sound. Thus, taking the combined teaching of combined teaching of McNutt and new teaching of Howard as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have incorporated the having a speaker operably connected to the output for the purpose of providing the stereophonic sound.

Re claim 10, the programmable logic controller of claim 1, further comprising an input configured to input a signal to the programmable logic controller (fig.2 (2500,2900); col.6 line 58-65).

Re claim 14, McNutt disclose of the programmable logic controller (fig.2 (2000) comprising: means for generating an Signal and means for

controlling the generating means and means for connecting the generating means to the programmable logic controller (col.6 line 15-20; fig.2/backplane connector at bus for interconnecting wt the generator via I/O bus); and means for outputting the signal, wherein the generating means, the controlling means fig.2 (2200,2400), and the connecting means are contained on the programmable logic controller (fig.2).

However, McNutt fail to disclose of the generator being an audio generator, Howard did disclose of having a programmable controller wherein the generator being an audio type (fig.2 (26); col.6 line 30-55) for the purpose of generating and outputting enhanced stereophonic sound from the computer. Thus, taking the combined teaching of McNutt and Howard as a whole, it would have been obvious at the time of the invention, for one of the ordinary skill in the art to have incorporated the having an audio generator in McNutt for the purpose of generating.

Re claim 15 has been analyzed and rejected with respect to claim 6.

Re claim 18, the method of generating a tone signal, comprising the steps of: interfacing control circuitry with a programmable logic controller and a generator (fig.2(2120)); and generating a signal with the generator and outputting the audio signal from the programmable logic controller (fig.2 (2200,2400)/generated may be outputted).

However, McNutt fail to disclose of the generator being an audio generator, Howard did disclose of having a programmable controller wherein the generator being an audio type (fig.2 (26); col.6 line 30-55) for the purpose of generating and outputting enhanced stereophonic sound from the computer. Thus, taking the combined teaching of McNutt and Howard as a whole, it would have been obvious at the time of the invention, for one of the ordinary skill in the art to have incorporated the having an audio generator in McNutt for the purpose of generating and outputting enhanced stereophonic sound from the computer.

Re claim 19 has been analyzed and rejected with respect to claim 6.

Re claim 21 has been analyzed and rejected with respect to claim 9.

Re claim 23, the method of claim 18, further comprising inputting an input signal to the programmable logic controller and generating an audio signal associated with the input signal (fig.2 (2900,2500)).

4. Claim 3,8,11,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNutt ("US 6,865,425 B2) and Howard ("6,011,852") and further in view of Official Notice.

Re claim 3, the programmable logic controller of claim 1, However, the combined teaching of McNutt and Howard as a whole, fail to disclose of having configure the output to include screw terminals. However, official notice is taken that the limitation of configuring the output to include screw terminals is commonly known in the art, thus it would have been obvious at the time of the invention to have incorporated the output to include screw terminals for the purpose of provide stabilization to the output and securing.

Re claim 11, has been analyzed and rejected with respect to claim 5 (see claim 5 rejection below).

Re claim 22 has been analyzed and rejected with respect to claim 3 above.

Re claim 8, the programmable logic controller of claim 1 with the voltage level being outputted (see howard, fig.1), However, the combined teaching of McNutt and Howard as a whole, fail to disclose of the wherein the output is configured to output a signal of at least

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one of about 1, 10, 25, 70.7 and 100 Vrms. However, the concept of generating output to being either 1, 10, 25, 70.7 and 100 Vrms is simply the inventor's preference, thus it would have been obvious for one of the ordinary skill in the art to have incorporated the output to being either 1, 10, 25, 70.7 and 100 Vrms for the purpose of determining the maximum instantaneous power that may deliver at a time.

5. Claim 4,12-13,16,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNutt ("US 6,865,425 B2) and Howard ("6,011,852") and further in view of Chang et al. (US 2003/0120367 A1).

Re claim 4, the programmable logic controller of claim 1, However, the combined teaching of McNutt and Howard as a whole, fail to disclose of the further comprising an indicator operably connected to the audio generator and configured to indicate whether the audio output is operating correctly or is in a fault condition. But, Chang et al. did disclose of the similar concept of having the indicator operably connected to the audio generator and configured to indicate whether the audio output is being operated correctly or the fault condition (fig.1; page 2[0017,0060]) for the purpose of enabling the communication and data transfer between a control system and the actuator device. Thus, taking the combined teaching of McNutt and

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Howard and now Chang et al. as a whole, it would have been obvious for one of the ordinary skill in the art to have incorporated the indicator operably connected to the audio generator and configured to indicate whether the audio output is being operated correctly or the fault condition for the purpose of enabling the communication and data transfer between a control system and the actuator device.

Re claim 12, the programmable logic controller of claim 10, However, the combined teaching of of McNutt and Howard as a whole, fail to disclose of the signal input to the programmable logic controller associated with a sensor. However, Chang et al. did disclose of the signal input to the programmable logic controller associated with a sensor (page 2[0020]/ input signal between the PLC and the sensor) for the purpose of enabling the communication and data transfer between a control system and the actuator device. Thus, taking the combined teaching of McNutt and Howard and now Chang et al. as a whole, it would have been obvious for one of the ordinary skill in the art to have incorporated the signal input to the programmable logic controller associated with a sensor for the purpose of enabling the communication and data transfer between a control system and the actuator device.

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Re claim 13, the programmable logic controller of claim 12, wherein the sensor is configured to sense at least one of fire, heat and smoke (Chang, fig.1; page 2[0017]).

Re claims 16,20 have been analyzed and rejected with respect to claim 4.

6. Claim 5,17,24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNutt ("US 6,865,425 B2) and Howard ("6,011,852") and further in view of Chang et al. (US 2003/0120367 A1) and further in view of Official notice.

Re claim 5, the programmable logic controller of claim 1, However, the combined teaching of the combined teaching of McNutt and Howard as a whole, fail to disclose of the further comprising a recorder operably connected to the audio generator. However, chang et al. did disclose of having a recorder operably connected to the audio generator (fig.4(462) page 5[0060]) for the purpose of comparing the audio signal to stored data for diagnostic. Thus, taking the combined teaching of McNutt and Howard and chang et al. as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have incorporated the having a recorder operably connected to the audio generator for the purpose of comparing the

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audio signal to stored data for diagnostic. However, the combined teaching of McNutt and Howard and Chang et al. as a whole, as a whole, fail to disclose of the limitation wherein the audio generator output a recorded signal. However, official notice is taken the limitation of having the audio generator output a recorded signal is commonly known in the art, thus it would have been obvious for one of the ordinary skill in the art to have incorporated the audio generator output a recorded signal for the purpose of generating predetermined test signal for further analysis.

Re claim 17 has been analyzed and rejected with respect to claim 5.

Re claim 24 has been analyzed and rejected with respect to claim 5 above.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over McNutt ("US 6,865,425 B2") and Howard ("6,011,852") and further in view of Goodwater (Re 29,580).

Re claim 7, the programmable logic controller of claim 1, However, the combined teaching of McNutt and Howard as a whole, fail to disclose of the comprising a step up transformer configured to

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increase an audio signal generated by the audio generator. But, Goodwater did disclose of a system wherein having the similar concept of having a transformer configured to increase an audio signal generated by the audio generator (fig.2 (3,1); col.3 line 20-40) for the purpose of enable the broadcasting of audio signals over speakers and thus provide warning of the existence of hazardous condition in the protected area. Thus, taking the combined teaching of McNutt and Howard and now Goodwater as a whole, it would have been obvious for one of the ordinary skill in the art to have incorporated the feature of having a transformer configured to increase an audio signal generated by the audio generator in the teaching of McNutt and Howard as a whole, for the purpose of enable the broadcasting of audio signals over speakers and thus provide warning of the existence of hazardous condition in the protected area.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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